

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)

3430-0105P

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on _____

Signature _____

Typed or printed
name _____

Application Number

09/589,881

Filed

June 09, 2000

First Named Inventor

Jeongmin MOON

Art Unit

2871

Examiner

H. C. Nguyen

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

☐

applicant/inventor.

☐

assignee of record of the entire interest.

See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)

☒

attorney or agent of record.

Registration number 40953

☐

attorney or agent acting under 37 CFR 1.34.

Registration number if acting under 37 CFR 1.34 _____



Signature

Esther H. Chong

Typed or printed name

703-205-8000

Telephone number

August 5, 2011

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☐

*Total of _____ forms are submitted.

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Application of:

Jeongmin MOON

Application No.: 09/589,881

Confirmation No.: 1734

Filed: June 09, 2000

Art Unit: 2871

For: REFLECTIVE LIQUID CRYSTAL DISPLAY
DEVICE HAVING AN AUXILIARY LIGHT
SOURCE DEVICE WITH A UNIFORM LIGHT
DISTRIBUTION

Examiner: H. C.
Nguyen

PRE-APPEAL BRIEF CONFERENCE REQUEST

MS AF

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

INTRODUCTORY COMMENTS

Applicant hereby requests a pre-appeal brief conference with respect to the Office Action dated April 5, 2011, in which claims 2, 6-11, 14-18, 21 and 24-27 continue to be rejected. A Notice of Appeal is being filed herewith.

The claims on appeal are found in the RCE Amendment filed on December 17, 2010. Because the claims under rejection have been at least twice rejected, it is proper to Appeal the rejection of claims 1, 2, 6-11, 14-18, 21 and 24-27 pursuant to 35 USC §134(a).

The grounds of rejection to be reviewed are, as follows:

A. Claims 1-2, 6-9, 11, 14-18, 21 and 24 stand rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Patent 6,259,854 to Shinji et al. ("Shinji") in view of U.S. Patent 5,575,549 to Ishikawa et al. ("Ishikawa").

B. Claim 10 stands rejected under 35 U.S.C. §103(a) as being unpatentable over EP 08878720 to Funamoto et al. ("Funamoto") in view of Shinji and Ishikawa.

C. Claim 26 stands rejected under 35 USC §103(a) as unpatentable over Funamoto in view of Ishikawa and further in view of Shinji.

By way of background, Applicant notes that the present invention is directed to an auxiliary light source device for a reflective liquid crystal display device which achieves a high light utilization efficiency and improved display characteristics. The device of the present invention includes a light source and a light directing member for directing incident light from the light source toward a reflector, outwardly along an orthogonal direction. The light directing member includes upper and lower surfaces which are disposed parallel to each other, with side surfaces connecting the upper and lower surfaces. In one of the advantageous features of the present invention, the side surface angle between the side surfaces and a line perpendicular to the planar portion is less than 5°. With reference to Fig. 3 of the present application, the angles θ_a and θ_b between the surfaces A and C and between the surfaces B and C, respectively, are less than 5°. Thus, the convex portion of the lower surface, which can alter the incident angle of reflective light to an angle less than 5° is relatively easy to manufacture. Fig. 5 of the present application shows an enlarged view of the lower portion of the light directing member. As shown in Fig. 5, it is preferable that an angle 523 between the side surfaces 515 or 517 and a line perpendicular to surfaces 511 and 513 falls within the range of about between 0° and 10°. Because of the disposition of the side surfaces 515 and 517 of the convex portions relative to the upper and lower surfaces 513 and 511, respectively, which as defined in claims 1, 10 and 11 has an angle of less than 5°, the light which strikes a side of one of the convex portions is directed downwardly, substantially perpendicular to the reflector 507.

The outstanding rejections are without merit for the following reasons:

Shinji, the base reference used in this rejection, does not disclose or even remotely suggest the beneficial results and importance of defining the angle of the light-reflecting side walls of a light directing member as defined by the claims of the present invention. In fact, the Shinji reference explicitly teaches away from the present invention in its disclosure in col. 7, lines 34-37, that the trapezoidal pattern advantageously has an angle of between 10° and 30° to achieve a large ray utility factor and to reduce loss. Also, Table 1 of the prior art reference appears to support this disclosure showing, in all of the

embodiments, slope angles of 20° to 25°. Significantly, Shinji states, in col. 7, lines 5-13, that when the slope angle is zero degrees or 2 degrees, the scattering reflection efficiency is less than one and is bad even when the height to width ratio is equal to or greater than 0.6, thereby teaching away from using slope angles less than 5 degrees. In fact, Shinji explicitly advocates using slope angles greater than 5 degrees.

Applicant respectfully submits that, because the negative teachings present in the Shinji reference, and in view of a total lack of appreciation of the importance of controlling the angles of the side surfaces of the convex portions of the light directing member, it would not be obvious to combine the teachings of the respective references without completely reconstructing the teachings of the references in view of the Applicant's own disclosure.

Moreover, the Ishikawa patent does not appear to specifically address the slope angles in connection with Fig. 30 of the reference patent and similarly, there appears to be no recognition in the Funamoto reference of the advantages to be achieved by controlling the side surface angles of the convex portions of the light directing member as defined by the claims of the present application. Accordingly, in view of the negative teachings present in the Shinji reference concerning slope angles of less than 5 degrees, and in view of a total lack of appreciation of the importance of controlling the angles of the side surfaces of the convex portions of the light directing member, it would not be obvious to combine the teachings of the respective references without completely reconstructing the teachings of the references in view of the Applicants' own disclosure.

To the extent that the Office Action indicates that Shinji has built the embodiments where the slope angle is zero degrees and 2 degrees, Applicant submits that this is only speculative conjecture. All that Shinji discloses in this regard is to discuss how bad scattering reflection efficiency is when the slope angles are zero or 2 degrees. This does not constitute an inherent disclosure (i.e., not just possibly disclosed and not just probably disclosed, but necessarily disclosed) of actually constructed physical embodiments. Applicant respectfully submits that it may be possible that computer simulations were made to serve as the basis for this disclosure. In this regard, however, Applicant points out that for something to be inherently disclosed, it cannot be just possibly disclosed nor can it be probably disclosed. Rather, it must be necessarily disclosed. See, in this regard, *In re Oelrich*, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981) and *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993). Moreover, it is well settled that a rejection under 35 U.S.C. § 103 cannot be based on speculation. See *In re Warner*, 379 F.2d 1011, 1017, 154 USPQ 173, 178 (CCPA 1967), *cert. denied*, 389 U.S. 1057 (1968).

See, also, *In re GPAC, Inc.*, 35 USPQ2d 1116 at 1123 (Fed. Cir. 1995) and *Ex parte Haymond*, 41 USPQ2d 1217 at 1220 (Bd. Pat. App. & Int. 1996).

Furthermore, Shinji clearly, unmistakably and unequivocally teaches away from the claimed invention and, because of this, Shinji cannot be used to render the claimed invention obvious under 35 USC §103(a). A reference may be said to teach away from the proposed claimed invention when a person of ordinary skill in the art, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by Applicant. The degree of teaching away will, of course, depend on the particular facts. In general, a reference will teach away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant, *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994).

Applicant respectfully submits that, after reading Shinji, one of ordinary skill in the art would clearly be discouraged from making an auxiliary light source device for a reflective liquid crystal display with a light directing member having the characteristics recited in the claims, which include a light directing member for directing incident light from the light source toward the reflector outwardly along an orthogonal direction, the light directing member including an upper surface and a lower surface parallel to each other, the lower surface having a plurality of convex portions extending from the lower surface, each of the convex portions having a substantially planar surface which is substantially parallel to the lower surface and a side surface connecting the planar surface and the lower surface, and a side surface angle between the side surface of the convex portion and a line perpendicular to the substantially planar surface is less than 5°, wherein the plurality of convex portions have the same side surface angle with each other, wherein light reflected along an orthogonal direction to the liquid crystal display device is uniform, and wherein a size of the plurality of convex portions increases with increasing distance from the light source.

Additionally, reference to Table I reveals that the embodiment having the lowest average luminance and the second lowest uniformity ratio of luminance is comparative embodiment 1, which is the only disclosed embodiment with a slope angle less than 5 degrees. This clearly evidence of a substantial teaching away of using slope angles of less than 5 degrees.

Responses to Examiner's Arguments:

It is respectfully submitted that Applicant has not ignored the conditions of the width and height of the Shinji light conductor. Shinji teaches that the slope angle is zero or 2 degrees "even when" the height to width ratio is equal to or greater than 0.6, which appears to mean that a height to width ratio which is equal to or greater than 0.6 is an optimum condition and a height to width ratio of less than 0.6 is

not optimum so that the scattering reflection ratio is less than one for any height to width ratio in Shinji's light conductor. In this regard, the Office has not presented any evidence that if the height to width ratio is less than 0.6, that the scattering reflection ratio would be greater than one.

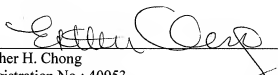
Applicant also notes that, while Applicant does not recite a quantitative value of light scattering or of light uniformity, whether they do so or do not do so is not relevant to the fact that one of ordinary skill in the art would clearly not be properly motivated to employ a slope angle less than 5 degrees and, therefore, the claimed invention, which specifies the slope angle is not rendered obvious regardless of reciting any quantitative value(s) of light scattering or of light uniformity. Moreover, the Office Action fails to explain why Applicant has to disclose or claim quantitative scattering reflection efficiency values when an applicant is entitled to claim what he (or she) regards as his (or her) invention, as required by the patent statutes.

The assertion that Shinji has made an embodiment that anticipates the claims is without merit because even the Examiner realizes that the rejection is under 35 USC §103 because Shinji needs to be modified by two other references to allegedly render the claimed invention obvious, and one of ordinary skill in the art would not be properly motivated to modify Shinji's comparative embodiment 1 in view of the secondary references because of the poor results of comparative embodiment 1.

Accordingly, in view of the above remarks, the rejections should be reconsidered and withdrawn, and claims 1-2, 6-11, 14-18, 21, and 24-27 of the present application should be allowed. If necessary, the Director is hereby authorized in this, concurrent, and future replies to charge any fees required during the pendency of the above-identified application or credit any overpayment to Deposit Account No. 02-2448.

Dated: August 5, 2011

Respectfully submitted,

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